Up Converter

Frequency Mixer

LAVI-U182H+

Level 19 (LO Power +19 dBm) 10 to 1800 MHz

CASE STYLE: CK605

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+22 dBm
IF Power	+18 dBm

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

LO	10
IF (IN)	14
RF (OUT)	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

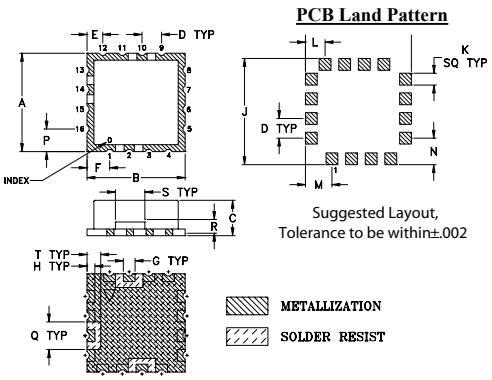
Features

- up converter mixer
- very high IP3, 32 dBm typ.
- excellent L-R isolation, 53 dB typ; L-I isolation, 40 dB typ.
- high 1 dB compression, 15 dBm typ.
- shielded metal cover
- aqueous washable
- protected by US Patent 6,807,407

Applications

- mobile radio
- cellular
- GPS
- defense communication

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.572	2.54	2.032	2.921	1.524	1.016	13.72	1.524

L	M	N	P	Q	R	S	T	wt.
.100	.135	.135	.115	.140	.070	.150	.070	grams
2.54	3.429	3.429	2.921	3.556	1.778	3.81	1.778	1.0

Electrical Specifications (T_{AMB}=25°C)

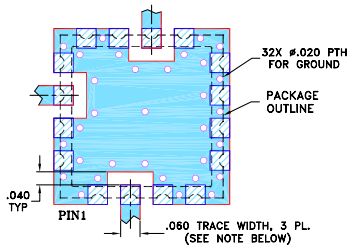
FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ**	Max.	Typ.	Min.	Typ.	Min.	Typ.
10-250	1490-1730	1560-1800	8.3	0.15	9.6	40	29	53	42	32

1 dB COMPR. +15 dBm typ.
* Conversion Loss at IF=70 MHz.
** σ is a standard deviation.

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
			LO	LO	LO	LO	LO	LO
IF (IN)	LO	RF (OUT)	+19dBm	+19dBm	+19dBm	+19dBm	+19dBm	+19dBm
70.00	1490.10	1560.10	8.18	41.20	59.83	1.84	4.44	30.65
70.00	1500.10	1570.10	8.18	40.95	59.21	1.82	4.07	31.19
70.00	1550.10	1620.10	8.23	38.32	55.88	1.74	2.57	32.91
70.00	1600.10	1670.10	8.20	35.10	54.20	1.65	1.86	33.07
70.00	1610.10	1680.10	8.21	34.64	53.72	1.63	1.82	33.37
70.00	1620.10	1690.10	8.22	34.08	53.06	1.62	1.81	33.47
70.00	1630.10	1700.10	8.26	33.53	52.86	1.61	1.83	33.38
70.00	1640.10	1710.10	8.28	33.02	52.99	1.60	1.89	32.17
70.00	1650.10	1720.10	8.30	32.64	52.92	1.58	1.97	32.67
70.00	1660.10	1730.10	8.31	32.39	52.98	1.57	2.08	32.28
70.00	1670.10	1740.10	8.31	32.02	52.97	1.56	2.21	31.68
70.00	1680.10	1750.10	8.34	31.74	52.96	1.54	2.36	31.93
70.00	1690.10	1760.10	8.35	31.56	52.93	1.53	2.52	31.81
70.00	1700.10	1770.10	8.38	31.47	52.95	1.52	2.69	31.18
70.00	1730.10	1800.10	8.46	31.22	52.18	1.49	3.28	30.24

Demo Board MCL P/N: TB-433+
Suggested PCB Layout (PL-012)

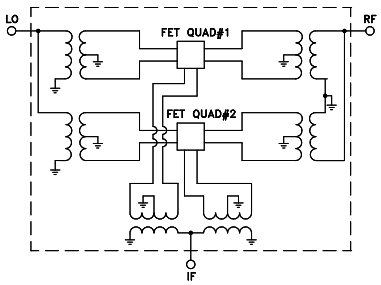


NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Schematic



Notes

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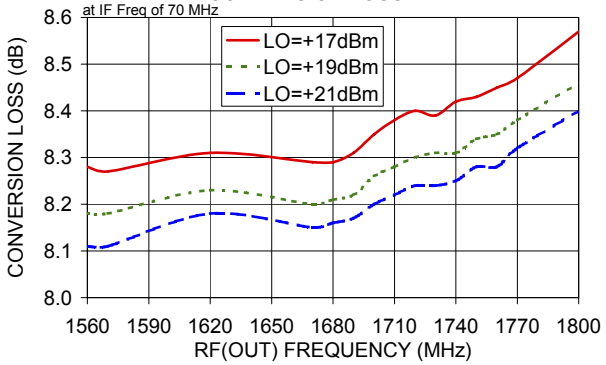
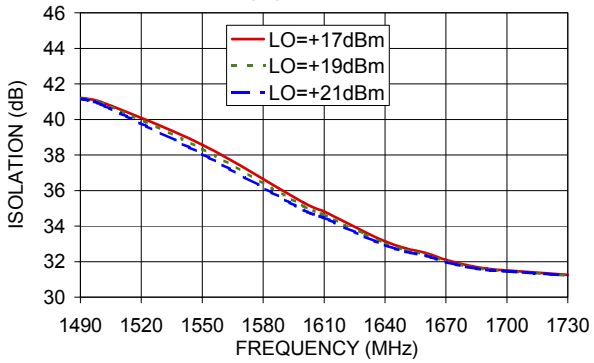
Mini-Circuits®
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

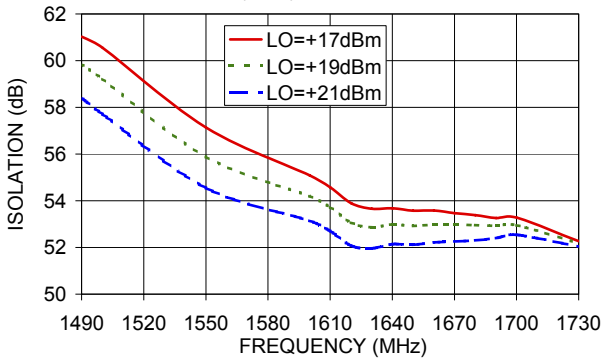
LAVI-U182H+
CONVERSION LOSS
at IF Freq of 70 MHz



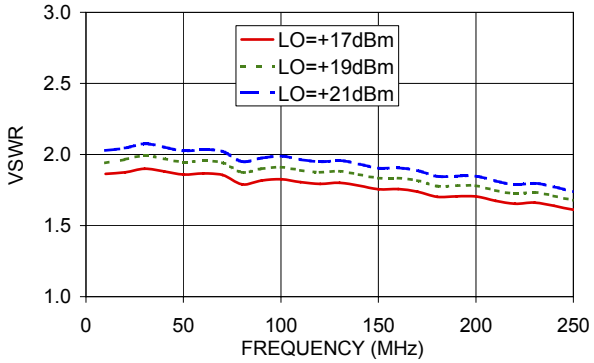
LAVI-U182H+
L-I (IN) ISOLATION



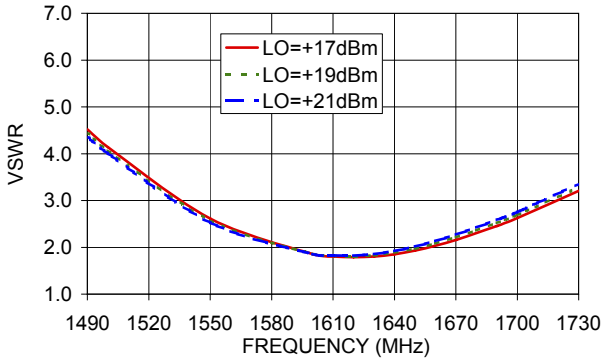
LAVI-U182H+
L-R (OUT) ISOLATION



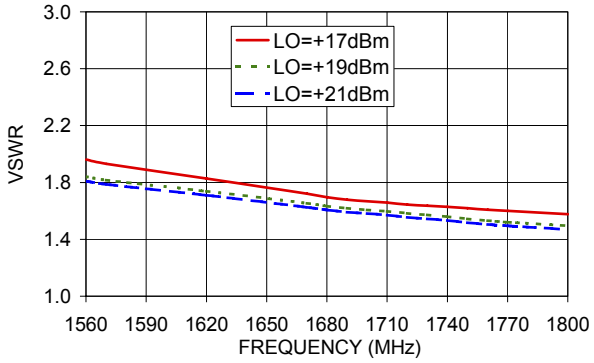
LAVI-U182H+
IF (IN) VSWR



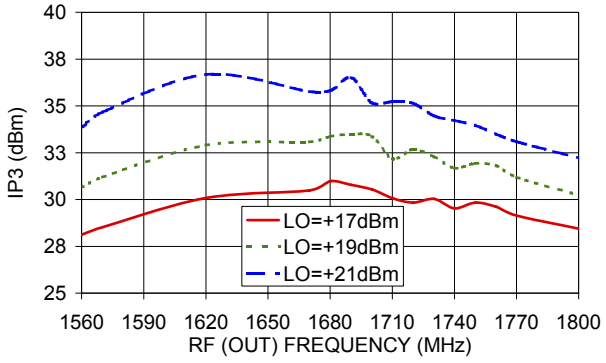
LAVI-U182H+
LO VSWR



LAVI-U182H+
RF (OUT) VSWR



LAVI-U182H+
IP3



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